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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,416	02/12/2004	B. Arlen Young	ADPT105103	7760

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EXAMINER

NGUYEN, TANH Q

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/779,416	<b>Applicant(s)</b> YOUNG, B. ARLEN	
	<b>Examiner</b> Tanh Q. Nguyen	<b>Art Unit</b> 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 21-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>02/12/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. The current status of all nonprovisional parent applications and serial number of the copending divisional applications referenced should be included.

### ***Claim Objections***

2. Claims 22, 28 are objected to because of the following informalities:  
  
“said single hardware I/O command block” in lines 2-3 of claim 22, and in lines 3-4 of claim 28 respectively should be replaced with “said single hardware I/O command block structure” to be consistent with the terminology used in lines 2-3 of claim 21, and lines 10-11 of claim 27 - respectively.
3. Claims 27-32 are objected to because of the following informalities:  
  
“a plurality of target devices” in line 12 of claim 27 should be replaced with “said plurality of target devices” - as “a plurality of target devices” was already recited in line 3 of claim 27;  
  
“a host adapter” in line 13 of claim 27 should be replaced with “said host adapter” - as “a host adapter” was already recited in line 2 of claim 27.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 21-32 are rejected under 35 U.S.C. 102(b) as being anticipated by **Beal et al. (USP 5,155,845)**.

6. As per claims 21, 27, Beal teaches a system comprising:

a host adapter [105, 102; 107, 122 - FIG. 4];

a plurality of target devices [109, 111 - FIG. 4] coupled to said host adapter; and

a host system [101, 121 - FIG. 4] coupled to said host adapter, said host system comprising a memory having stored therein instructions for a method wherein upon execution of said instructions by said host system, (the host system transmitting a series of channel commands for the provision (i.e. a method) of extended dual copy service (col. 19, lines 46-48) - in order for the host system to transmit the series of channel commands for the provision of extended dual copy service, it is necessary for the host system to execute instructions stored in a memory of the host system to effect the transmission of the series of channel commands for the provision of extended dual copy service), said method comprises:

using, in said host system, a single hardware I/O command block structure [FIG. 17] for both non-mirrored (EXTENDED CONNECTIVITY, col. 30, lines 20-27; col. 30, lines 40-59) and mirrored transactions (EXTENDED DUAL COPY, col. 20, line 61-col. 21, line 7) for said plurality of target devices coupled to said host system by said host adapter;

setting a mirror field [field 2 - LV (local volume), FIG. 17] in said single hardware

I/O command block structure to a valid value [LV being 3, FIG. 17] for a mirrored transaction (col. 20, line 61-col. 21, line 7); and

setting said mirror field in said single hardware I/O command block structure to an invalid value (LV being a phantom volume, col. 30, lines 49-51) for a non-mirrored transaction.

7. As per claims 22, 26 and 28-32, Beal teaches setting a target identification field [field 3a - RV0, FIG. 17] in said single hardware I/O command block structure to identify one of said plurality of target devices [RV0 being 1, FIG. 17] when said mirror field in said single hardware I/O command block structure is set to said valid value for said mirrored transaction (col. 21, lines 3-7) - claims 22, 28;

the valid value comprising a valid hardware I/O control block identification number (local volume LV 3 representing a valid disk drive 3 for extended dual copy, col. 21, lines 1-3) - claims 23, 29;

the invalid value comprising a null (nil, having no value, amounting to nothing, invalid, zero) identification number (phantom volume having no physical correspondence in disk drives 109, col. 3, lines 49-51) - claims 24, 30;

the mirrored transaction comprising a write transaction (col. 21, lines 31-35) - claims 25, 31;

the mirrored transaction comprising a read transaction (a read request for a most current image of the virtual volume that has extended dual copy implementation, col. 23, lines 44-52) - claims 26, 32.

### ***Double Patenting***

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 21-32 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 27, 29-33 of copending Application No. 10/779,417 (Attorney Docket No. ADPT105101, hereinafter AN417). This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 27, 29-33 of AN417 contain every element of claims 21-32 of the instant application and as such anticipate claims 21-32 of the instant application.

"A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or **anticipated by**, the earlier claim. *In re Longi*, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); *In re Berg*, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). " ELI LILLY AND

COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

10. As per claims 21, 27, AN417 - claims 27 and 29 teaches a system comprising:
  - a host adapter (line 2, claim 27);
  - a plurality of target devices coupled to said host adapter (lines 3-4, claim 27); and
  - a host system coupled said host adapter (the host adapter in line 2 of claim 27 is an adapter that is coupled to a host system), said host system comprising a memory having stored therein instructions for a method wherein upon execution of said instructions by said host system (a new hardware I/O control block structure (lines 12-14 of claim 27 and lines 3-4 of claim 29) being used for both non-mirrored and mirrored transactions in the host system (lines 3-6 of claim 29, lines 12-15 of claims 27) - in order to use of the new hardware I/O control block structure for both non-mirrored and mirrored transactions in the host system, it is necessary for the host system to execute instructions stored in a memory of the host system to effect the use of the new hardware I/O control block structure for both non-mirrored and mirrored transactions), said method comprises:
    - using, in said host system, a single hardware I/O command block structure (a new hardware I/O control block structure - lines 12-14 of claim 27 and lines 3-4 of claim 29) for both non-mirrored (lines 3-6 of claim 29) and mirrored transactions for the plurality of target devices coupled to said host system by the host adapter (lines 12-17 of claim 27);

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setting a mirror field (sister hardware I/O control block field - line 8 of claim 27) in said single hardware I/O command block structure to a valid value for a mirrored transaction (upon said sister hardware I/O control block field containing a valid value (i.e. the mirror field being set to contain a valid value), said single hardware I/O command block structure is for a mirrored data transaction (lines 10-15 of claim 27));

setting said mirror field (sister hardware I/O control block field - line 8 of claim 27) in said single hardware I/O command block structure to an invalid value for a non-mirrored transaction (upon said sister hardware I/O control block field containing an invalid value (i.e. the mirror field being set to contain a invalid value), said single hardware I/O command block structure is for a non-mirrored data transaction (lines 1-6 of claim 29)).

11. As per claims 22-26, 28-32, AN417 teaches setting a target identification field in the single hardware I/O command block structure to identify one of the plurality of target devices (information in the target identification field being used (i.e. being set) to identify one of the plurality of target devices - lines 16-18 of claim 27) when the mirror field in the single hardware I/O command block structure is set to the valid value for the mirrored transaction (lines 10-18 of claim 27) - claims 22, 28;

the valid value comprising a valid hardware I/O control block identification number (lines 1-3 of claim 30) - claims 23, 29;

the invalid value comprising a null identification number (lines 1-2 of claim 31) - claims 24, 30;



the mirrored transaction comprising a write transaction (lines 1-2 of claim 33) -  
claims 25, 31;

the mirrored transaction comprising a read transaction (lines 1-2 of claim 32) -  
claims 26, 32.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanh Quang Nguyen whose telephone number is (703) 305-0138, and whose e-mail address is [tanh.nguyen36@uspto.gov](mailto:tanh.nguyen36@uspto.gov). The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached on (703) 308-3301. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 for After Final, Official, and Customer Services, or (703) 746-5672 for Draft to the Examiner (please label "PROPOSED" or "DRAFT").

Effective May 1, 2003 are new mailing address is:

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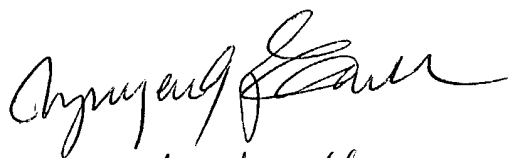
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08/09/2004

TQN  
August 9, 2004